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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,011	09/28/2000	Arnold Lamm	1748X/49135	5703

7590 12/12/2002

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EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/12/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/623,011

Applicant(s)

LAMM ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Remarks

This Office Action is responsive to Applicant's amendment filed October 7, 2002.

Claim Rejections - 35 USC § 102 and 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 10, 11, 12, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Dine et al. (U.S. Pat. 5,573,866).

The above rejections have been discussed in detail in the previous Office Action. The rejection is maintained for the reasons of record and for the additional reasons to follow. Claim 21 is presently pending substantially as considered in the previous Office Action, thus, the rejection of this claim is maintained wholly as previously discussed. Claim 23 is rejected in response to Applicant's amendment and to the extent that the teachings of Van Dine are applicable towards the method limitations, with particular emphasis to the new amendment limitations. The remaining claims have been amended so as to more clearly recite by way of Applicant's present amendment "a means for setting and maintaining a desired operating temperature in the fuel cell by adjusting at least one of pressure in the cathode compartment and a rate of delivery of the liquid coolant/fuel mixture to the anode compartment." Van Dine is maintained to teach the latter limitation, in that a metering pump [20] adjusts the feed of the

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liquid fuel. (col. 3 line 42-45) Through its operation the fuel cell is maintained at a desired temperature range of 160°C to 1700°C. (col. 4 line 15-16)

Applicant's arguments directed towards Van Dine have been fully considered, however they are not persuasive. Applicant submits that Van Dine does not teach adjusting and maintaining the operating temperature of the fuel cell by adjusting the flow rate of the liquid methanol/coolant mixture. However, adjustment of the liquid methanol/coolant mixture by the metering pump [20] would result in the liquid level to rise, subsequently activating a condenser fan [34] and thereby maintaining the cell operating temperature by evaporative cooling.

Claims 10-17 and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hornburg et al. (U.S. Pat. 5,981,096).

The above rejections have been discussed in detail in the previous Office Action. The rejection is maintained for the reasons of record and for the additional reasons to follow. Claim 21 is presently pending substantially as considered in the previous Office Action, thus, the rejection of this claim is maintained wholly as previously discussed. Claim 23 is rejected in response to Applicant's amendment and to the extent that the teachings of Hornburg are applicable towards the method limitations, with particular emphasis to the new amendment limitations. The remaining claims have been amended so as to more clearly recite by way of Applicant's present amendment "a means for setting and maintaining a desired operating temperature in the fuel cell by adjusting at least one of pressure in the cathode compartment and a rate of delivery of the liquid coolant/fuel mixture to the anode compartment." Hornburg is maintained to teach the latter limitation, in that a thermostatic valve [23] regulates the return of the methanol/water, i.e. liquid coolant/fuel mixture to the anode. (col. 3 line 42-51) A desired

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operating temperature in the fuel cell is thereby maintained, albeit if primarily within the anode space [2]. (lines 47-48)

Applicant's arguments directed towards Hornburg appear to be a paraphrase of the claimed invention limitations. Thus, they are not persuasive for the reasons discussed in the immediately preceding paragraph.

Arguments against McElroy have been fully considered, however, these arguments are deemed moot as the rejection based on McElroy has been withdrawn in favor of the Van Dine and Hornburg references.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Meyer et al. (U.S. Pat. 5,503,944) is cited of cumulative relevance.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

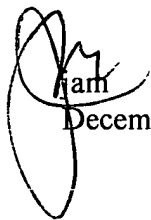
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



December 10, 2002



Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700